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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HUFFMAN, JULIAN D

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/631,332	Applicant(s) DAVIS ET AL.	
	Examiner Julian D. Huffman	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 17 and 19-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-16, 18 and 24-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species 2 in the reply filed on 25 April 2005 is acknowledged. Claims 7-9, 17 and 19-23 are withdrawn from consideration as being directed towards a non-elected invention.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-5 and 26-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Lorenze, Jr. et al. (U.S. 5,663,754).

Lorenze discloses:

With regards to claim 1, a pen maintenance system (fig. 2), comprising:

a pen (fig. 2, element 12) having a printhead (fig. 2, element 20) and a chamber for holding ink (element 22);

a supply of ink (fig. 2, refill container 42);

a sensor for monitoring changes in the amount of ink in the chamber (column 4, lines 4-20); and

a pump (element 60, column 3, lines 58-60, syringe is a pump, or fig. 4, element 94, wherein in an alternate embodiment, pump is provided in refill container 42) connected to the chamber for changing the pressure in the chamber to selectively draw

ink into the chamber through the printhead and expel ink from the chamber through the printhead (column 4, lines 4-20, pump generates negative pressure when operator fluidly connects it to chamber, pump is capable of expelling and drawing ink since pump can be manipulated to generate negative and positive pressure).

With regards to claim 2, an ink supply reservoir separate from the pen (reservoir 42 is separate from pen).

With regards to claim 3, that the pump is selectively placed in fluid communication with the chamber (in the embodiment of fig. 2, the user places the pump in communication with the chamber when the ink level is low, column 4, lines 4-20).

With regards to claim 4, that the pump is for decreasing the pressure in the chamber (syringe is pulled during refill operation to decrease pressure in chamber in embodiment of fig. 2, column 4, lines 14-20).

With regards to claim 5, the pump is for increasing the pressure in the chamber (the pump is capable of increasing the pressure in the chamber).

With regards to claim 26, a pen maintenance apparatus (fig. 2), comprising:
a pen (fig. 2, element 12) having a printhead (20), an ink reservoir (22) and sensor that detects the amount of ink in the reservoir (column 4, lines 4-20);
an ink supply (42) that supplies ink to the reservoir (column 4, lines 4-20); and
a pump (fig. 2, syringe 60 is a pump, or in fig. 4, alternate embodiment uses pump 94) for modifying the pressure in the reservoir to selectively expel ink from the reservoir through the printhead and to cause ink to enter the reservoir through the

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printhead (pump causes ink to enter reservoir, column 4, lines 4-20 and is capable of expelling ink through the reservoir).

With regards to claim 27, that the pen includes nozzles (fig. 2, element 28), and wherein operation of the pump decreases the pressure in the reservoir (column 4, lines 4-20, syringe produces negative pressure) to cause ink to flow from the ink supply through the nozzles and into the reservoir (column 4, lines 4-26).

With regards to claim 28, the operation of the pump increases the pressure in the reservoir to cause ink to flow through the nozzles and out of the reservoir (the pump is capable of such operation).

With regards to claim 29, a pen maintenance system, comprising:

a pen (12) having a printhead (20) and an ink chamber (22);

a sensor for monitoring the amount of ink in the ink chamber (column 4, lines 4-20);

a pump fluidly coupled to the ink chamber (60);

an ink supply reservoir (42) having a cap defining a seat configured to receive the printhead so as to define a seal between the printhead and the cap (48);

wherein ink may selectively be expelled from the pen through the printhead and into the ink supply reservoir (the pump is capable of such), and introduced to the pen from the ink supply through the printhead by operation of the pump (column 4, lines 4-20).

With regards to claim 30, the pen is selectively fluidly connectable to the ink supply reservoir (fig. 2) and the pump is configured for altering the pressure in the ink

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chamber to either cause ink from the ink supply reservoir to flow into the ink chamber (column 4, lines 4-20), or cause ink to flow from the ink chamber to the ink supply reservoir (the pump is capable of reverse operation to generate positive pressure to push ink into the ink supply reservoir).

With regards to claim 31, an actuator for selectively moving the pump into and out of fluid communication with the ink (column 4, lines 10-14, the operator is a part of the pen maintenance system).

With regards to claim 32, an actuator for selectively moving the ink supply reservoir into and out of fluid communication with the printhead (column 4, lines 10-14, the operator serves as the actuator).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 10-16, 18, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenze, Jr. et al. in view of Baezner et al. (U.S. 5,581,287).

Lorenze, Jr. et al. disclose:

With regards to claim 6, a method for maintaining a pen, comprising the steps:

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connecting a pump to a pen having an ink chamber and a printhead (fig. 2, column 4, lines 10-14);

operating the pump to modify the pressure in the chamber to thereby modify the amount of ink in the ink chamber by drawing ink into the chamber through the printhead (column 4, lines 4-20).

With regards to claim 10, detecting a fluid level in the ink chamber (column 4, lines 5-8).

With regards to claim 11, initiating operation of the pump upon detection of a change in fluid level in the ink chamber (column 4, lines 5-8).

With regards to claim 12, providing a fluid level sensor in the ink chamber (Lorenze, Jr. et al. incorporates by reference U.S. 5,136,305 and states that an ink level monitoring system such as that disclosed in the '305 patent may be used, the '305 patent discloses a thermistor 34 provided in the ink chamber as the ink level monitoring system).

With regards to claim 13, the pump causes ink to flow into the ink chamber to the ink source (column 4, lines 4-20).

With regards to claim 14, fluidly connecting the ink chamber to the ink source (fig. 2, column 4, lines 10-14).

With regards to claims 15 and 25, the pen includes nozzles (28) and ink flows into the ink chamber through the nozzles (column 4, line 21).

With regards to claim 16, the pump reduces pressure in the ink chamber to cause ink to flow into the ink chamber through the nozzles (column 4, lines 15-20).

With regards to claim 24, moving the pen into fluid communication with an ink supply and wherein the pump causes ink to flow into the ink chamber (column 4, lines 4-20).

Lorenze, Jr. et al. does not disclose expelling ink from the chamber through the printhead by operating the pump.

Baezner et al. discloses expelling ink from an ink cartridge by depressing a syringe (column 4, lines 9-24).

It would have been obvious to one having ordinary skill in the art at the time of the invention to operate the pump to expel ink from the cartridge, as taught by Baezner et al., for the purpose of priming the cartridge and removing air that may have been introduced in the printhead before or during refilling (column 4, lines 17-19).

Response to Arguments

6. Applicant's arguments regarding Okamoto and Ogawa et al. are persuasive.

Applicant argues that Lorenze does not disclose operating the pump to expel ink from the chamber.

Apparatus claims 1-4 and 26-32 only require the pump to be capable of such an operation, as such the pump of Lorenze is capable of expelling ink from the chamber. Claims 1-4 and 26-32 do not recite any structure which is not taught by Lorenze. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably

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distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claims 6, 10-16, 24 and 25, these claims positively recite the step of expelling ink and are unpatentable over Lorenze in view of Baezner et al.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571)

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272-2147. The examiner can normally be reached on 9:30a.m.-6:00p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Julian D. Huffman
22 September 2005


K. FEGGINS
PRIMARY EXAMINER